

REMARKS/ARGUMENTS

Claims 1, 3-11 and 13 are active.

Claims 1 and 13 are amended to incorporate claim 2, in part (see also page 20, lines 1-11 in the specification).

The remaining changes are for dependency.

No new matter is added.

Claims 1-3 and 5-13 are rejected under 35 USC 103(a) in view of the combination of Pauls (US 6,274,381) and Oppenlander (US 6,533,830). Claim 12 is separately rejected combining Pauls, Oppenlander and Sang (EP1323811). Claim 12 is cancelled.

Pauls was previously cited and withdrawn. The Examiner again cites Pauls for teaching dyes useful for tagging petroleum products. The Examiner again relies on the statement in column 4, lines 52-54 as an allegation that Pauls teaches combining dyes with additives such as detergents. The Examiner at page 3 of the Official Action, third paragraph, acknowledges that Pauls does not teach carrier oils. The Examiner cites Oppenlander for disclosure relevant to carrier oils, particularly polyalkene alcohol polyalkoxylates, useful for fuel in lubricant compositions.

Pauls et al. describe a method for invisibly tagging liquid petroleum products such as fuels, heating oils, lubricating oils etc. with dyes. The dyes are used at very low concentrations to prevent visual recognition of the marking. Concentrated solutions of the markers in solvents are mentioned in Pauls et al. (col. 7, lines 18-30), however, these solutions do not contain further additives and no addition of further additives is suggested. Pauls et al. only describe adding a concentrated solution of the marker to the petroleum product which contains additives in a diluted regime, thereby also diluting the dye to the desired concentration. Therefore, it is not possible that the stability problems, which are solved by the present invention, relating to concentrates comprising markers and additives

will arise in the context of Pauls et al. Markers and additives simply do not interact in a concentrated solution in Pauls et al.

Stability of the markers against additives, such as deposit control agents, antioxidants, or detergents, present in the tagged petroleum products is discussed in Pauls et al. (c.f. “wish-list”, col. 4, lines 52-56). However, the stability issues mentioned in Pauls et al. are with respect to the marked product, which corresponds to the diluted state of the marker at very low concentration. The question of stability of the marker at high concentrations in the package is, as already mentioned above, not addressed in Pauls et al. Therefore, the stability of anthraquinone markers in concentrated solutions is surprising to a person skilled in the art (see, the experiments on storage stability in the application starting at page 26).

Oppenländer et al. merely describe the composition of concentrated additive packages for fuel and lubricants. Markers are not mentioned by Oppenländer et al. and there is no information to be found to add markers to the concentrate.

That the cited references teaches very different compositions, with only general disclosure as to what could be included in such very different compositions, there is simply nothing in the art that suggests to the problem underlying the present invention, stabilization of anthraquinone markers in concentrated solutions (see amended claim 1 and the defined concentrations provided therein) . The disclosures that are relied upon in the rejection is only “general guidance” (Bayer Schering Pharma AG v. Barr Laboratories, Inc. 2009 U.S. App. LEXIS 17372, 91 U.S.P.Q.2D (BNA) 1569 (Fed. Cir. 2009)) and simply is not the “finite disclosure” and guidance to “a particular solution” that the law requires. (*Id.*)

Even if a person skilled in the art, using Pauls et al. in view of Oppenländer et al., would have considered to add markers directly to the concentrated package the subject matter

of Claim 1, the unexpected effects shown by the examples of our application rebut any contention of *prima facie* obviousness.

Table 1 of the present application presents a typical composition of a fuel and lubricant additive concentrate. The two main representative components of such a concentrate are detergent (Polyisobutenamine (PIBA)) and carrier oil (Fatty alcohol propoxylate).

The stability of several anthraquinone markers is tested against the two major components of the concentrate and compared to the stability of a non-anthraquinone marker (phthalocyanine based).

It is clear from the results of Table 2 that the markers of the invention are stable against the detergent, while the comparative marker is not. The same holds true for stability with respect to the carrier oil shown in Table 3. The relative concentration of detergents and carrier oils with respect to the markers correspond to typical concentration conditions in the packages or contain even an increased amount of the detergent or carrier oil, which means that the markers have an additional stability safety margin as shown under these harsh conditions.

The storage stability of compounds 10 to 12 compared to detergent and the fuel and lubricant additive concentrate of Table 1 is then further described in detail. This data shows that the anthraquinone markers are stable against the detergent (also at higher temperatures) which was to be expected from the results of Table 2, but furthermore these results exemplify, that using the concentrate mixture itself (with a combination of detergent and carrier oil) does not lead to additional unexpected effects for the stability (even at higher temperatures). The anthraquinone markers remain stable.

Based on the examples it is therefore clear for a person skilled in the art that anthraquinone markers are unexpectedly more stable against components of the concentrates (detergents, carrier oil) as well as against the concentrate itself than other markers.

In consideration of the above-discussion in connection with the amended claims submitted in this paper, withdrawal of the rejections is requested.

A Notice of Allowance is also requested.

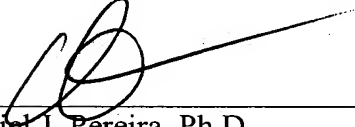
Respectfully submitted,

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